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(Cambodia, Laos, Thailand and Republic of Viet-Nam)

# PLAN OF OPERATION

# PILOT STATION FOR IRRIGATED AGRICULTURE, BATTAMBANG (CAMBODIA)

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# PLAN OF OPERATION

## PILOT STATION FOR IRRIGATED AGRICULTURE, BATTAMBANG (CAMBODIA)

### SUMMARY

| | | |
|---|---|---|
| Special Fund Allocation | | US$ 542,900 |
| Consisting of: | | |
| Special Fund Contribution | US$ 496,300 | |
| Government contribution towards local operating costs | US$ 46,600 | |
| Government Counterpart Contribution in Kind | | US$ 500,000 |
| Duration | | 4 years |
| Executing Agency: | | Food and Agriculture Organization of the United Nations |
| Co-operating Government Agency: | | The Ministry of Agriculture |

For the purpose of establishing a Pilot Station for Irrigated Agriculture at Battambang, Cambodia to be undertaken by the Food and Agriculture Organization of the United Nations acting as the Executing Agency for the United Nations Special Fund, this Plan of Operation shall be the Plan of Operation as provided for in Article I, paragraph 2, of the Agreement signed on 24 November 1960 by the Government of Cambodia and the United Nations Special Fund.

This Plan of Operation has been established in three original copies in both English and French, it being agreed and understood that the English and French texts shall be considered equally authentic.

/ I.

# I. PURPOSE AND DESCRIPTION

## A. Purpose of the Project

1.1 The purpose of the project is to provide demonstration and training in methods of irrigated agriculture in the area to be developed by irrigation with water from the Battambang River and to estimate the agricultural yields possible in the area with the use of improved methods of cultivation under irrigation.

1.2 In particular the project will:

(a) Study the most effective utilization of the water to become available from the diversion dam and then from the major works proposed on the Battambang River.

(b) Test modern methods of irrigated agriculture suitable for the area.

(c) Conduct research and provide demonstration on the performance, diversification and rotation of crops; and

(d) Train local personnel in the management of irrigation and in agricultural extension.

## B. Description of the Project

1.3 The results of a survey carried out earlier on the Battambang River Basin (FAO's Final Report on "Station Agricole de Battambang") confirmed the feasibility of harnessing the Battambang River as the basis for large-scale irrigation of a potential area of about 68,000 hectares. The Government plans to implement the irrigation project at Battambang as recommended in the survey. In the first phase of implementation, a diversion dam will be constructed which will be capable of irrigating about 12,000 hectares.

/The project

1.4 The project consists of the following:

(a) Detailed design and construction of a 300 hectare Pilot irrigation project, including a 15 hectares experimental station.

(b) Testing of water distribution and control methods and practice as well as the various espects of irrigated agriculture suitable for the area, including formulation of rules for water use, and

(c) Carry out experiments to determine whether the high agricultural yields envisaged in the report referred to in paragraph 1.3 can be achieved.

1.5 The project will be of four years duration. The first year will be devoted to the construction of the station and the excavation of irrigation canals and ditches. Trials, demonstrations and training will commence during the second year with growing emphasis on demonstration and training until the end of the Project.

1.6 Untill the completion of the diversion dam, irrigation water will be provided to those areas by water pumped from the Battambang River. The distance between the experimental farm and the town of Battambang is about 7 kilometres.

1.7 The demonstration area will be cultivated by the farmers under the guidance of the station personnel. The farmers will be introduced to the use of better implements, seeds and fertilizers and will be assisted in achieving improved soil management and more efficient marketing methods.

/At the end

1.8 At the end of the project, the Government will assume responsibility for financing and developing the station and for ensuring that the research results and practical experience in operating an irrigation system are made available to the farm population through extension work.

## II. PRIOR OBLIGATIONS

2.1 The Government shall take the necessary action to purchase 15 hectares of land needed for the experimental station.

2.2 The Government undertakes to establish an agreement on the right-of-way for channels through the farmers' lands as required by the project.

## III. WORK PLAN

### A. Participation and Contribution of the Special Fund

3.1 The Special Fund shall provide the following through the Executing Agency:

a. Experts

A total of 156 man-months of expert service as detailed in Appendix I below. Within the total of 156 man-months of expert service minor adjustments of individual post assignments may be made by the Executing Agency, in consultation with the Government, if this is found to be in the best interest of the project.

A number of fellowships as detailed in Appendix I below. Fellowships awarded under this Plan of Operation shall be administered in accordance with the fellowship regulations of the Executing Agency. Within the total allocation of $.....for fellowships,

/minor

minor adjustments of individual fellowships may be made if this is found to be in the best interest of the project.

b. Equipment and Supplies

Equipment and supplies at a cost not exceeding $153,000 as detailed in Appendix I below.

Sub-contracts at a cost not exceeding $.....for services and facilities as detailed in Appendix I below.

c. Miscellaneous

Miscellaneous services and facilities as detailed in Appendix I below.

3.2 The Executing Agency reserves the right to provide part or all of the above-mentioned services and facilities by sub-contract.

B. Participation and Contribution of the Government

(i) Counterpart Contribution

3.3 The Government shall provide the following as a counterpart contribution in kind.

a. Personal services

Professional staff. A total of 432 man-months of professional staff service as detailed in Appendix II below. Within the total of 432 man-months of professional staff service minor adjustments of individual post assignments may be made by the Government, in consultation with the Executing Agency, if this is found to be in the best interest of the project.

Other staff. An estimated total of 576 man-months of other personal services as detailed in Appendix II below.

b. Land and Buildings

Land and buildings as detailed in Appendix II below.

/Equipment

c. Equipment and Supplies

Equipment and supplies as detailed in Appendix II below.

d. Miscellaneous

Miscellaneous services and facilities, including office furniture, equipment, stationery and supplies, as detailed in Appendix II below.

e. Cost of transporting and handling of equipment

The cost of import and customs clearance of project equipment; its transportation, handling, storage and related expenses within the country; its safe custody, maintenance, insurance, and replacement if necessary, after delivery to the project site.

f. Records and information

The Government shall make available to the project all the records and information necessary for its implementation, irrespective of whether the material has been published or not. This will include reports, maps, records and other data which, in the opinion of the Executing Agency, would facilitate the operation of the project.

g. Housing

The Government shall undertake to supply international project personnel with suitable housing accommodation at a reasonable rent.

3.4 The estimated cost of the counterpart contribution as detailed in Appendix II below is based on the most realistic information available at the time of drafting this Plan of Operation. It is understood that price fluctuations during the period of execution of the project may necessitate an adjustment of said contribution in monetary terms; the latter shall at all times be determined by the value of the services and facilities required for the proper execution of the project.

(ii) Privileges and Immunities

3.5 The privileges and immunities to which the personnel of the United Nations Special Fund and of the Executing Agency are entitled are

/governed

governed by the Basic Agreement signed between the Government of Cambodia and the United Nations Special Fund, and referred to in the introductory paragraph on page 1 of this Plan of Operation.

3.6 The Executing Agency's contractors and their personnel (except Government nationals employed locally) shall have the right to the following:

a. immunity from legal process in respect of all acts performed by them in the execution of the project;

b. immunity from national service obligations;

c. immunity from immigration restrictions;

d. the privilege of bringing into the country reasonable amounts of foreign currency for the purposes of the project or for personal use of such personnel, and of withdrawing any such amounts brought into the country, or, in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such personnel in the execution of the project; and

e. the same repatriation facilities in the event of international crises as diplomatic envoys.

3.7 All personnel of the Executing Agency's contractors shall enjoy inviolability for all papers and documents relating to the project.

3.8 The Government shall either exempt from, or bear the cost of, any taxes, duties, fees or levies which it may impose on any foreign firm or organization which may be retained by the Executing Agency and on the foreign personnel of any such firm or organization in respect of:

a. the salaries or wages earned by such personnel in the execution of the project;

/any equipment

b. any equipment, materials and supplies brought into the country in connection with the Agreement or which, after having been brought into the country, may be subsequently withdrawn therefrom; and

c. as in the case of concessions currently granted to the United Nations experts, any property brought, including one privately owned automobile per employee, by the firm or organization or its personnel for their personal use or consumption or which, after having been brought into the country, may subsequently be withdrawn therefrom upon departure of such personnel.

3.9 The privileges and immunities to which such firm or organization and its personnel may be entitled, referred to in paragraphs 3.6 to 3.8 of this Plan of Operation, may be waived by the Executing Agency where, in its opinion or in the opinion of the Special Fund, the immunity would impede the course of justice and can be waived without prejudice to the successful completion of the Project or to the interest of the Special Fund or the Executing Agency.

3.10 The Executing Agency shall provide the Government with the list of personnel to whom the privileges and immunities enumerated above shall apply.

(iii) Local Operating Costs

3.11 With reference to the payments to be made by the Government under Article V, paragraph 1 (a) to (d) of the Agreement referred to in the preamble to this Plan of Operation, excepting the cost within the country for transportation of project supplies and equipment, which is a counterpart contribution, the Government shall pay to the Special Fund in local currency the equivalent of US$ 46,600 toward local operating costs. This amount represents 15 percent of the total estimated cost to the Special Fund of

/foreign

project personnel including cost of foreign personnel of sub-contractors (if such are employed on the project).

3.12 The contribution toward local operating cost, the equivalent of US$ 46,600, shall be deposited by the Government in local currency to the credit of the Special Fund Account No. 44-02-05 with Banque Nationale du Cambodge in Phnom Penh in accordance with the following schedule:

Equivalent of US$ 14,200 on signature of the Plan of Operation

Equivalent of US$ 11,700 on 1 January 1967

Equivalent of US$ 15,000 on 1 January 1968

Equivalent of US$ 5,700 on 1 January 1969

The amount payable in each instalment is determined by referring to the United Nations operating rate of exchange in effect at the date the payment falls due or at the date payment is made, whichever is later. Payment of the above amounts, on or before the dates specified is a prerequisite to operation.

C. Organization

3.13 Overall responsibility for the organization and execution of the project, including any portion which may be sub-contracted, rests with the Executing Agency which will plan and direct operations through the Project Manager, who, together with the other international experts, will be assigned to the project by the Executing Agency in consultation with the Government.

3.14 Any sub-contractors employed on the project by the Executing Agency will be selected in accordance with the relevant regulations of the Executing Agency.

3.15 In the discharge of his duties, the Project Manager, in consultation with the Co-Manager, shall:

/ (a)

(a) be responsible for the detailed planning, administration and execution of the project including timing and budgeting of the various elements and the preparation of technical reports;

(b) assist in the selection, and approve the appointment, by the Government of project counterpart personnel and auxiliary staff, and assist in the selection of candidates for Special Fund fellowships who will normally be chosen from the counterpart project personnel;

(c) supervise the experts, and in respect to technical matters, the counterpart personnel assigned to the project;

(d) determine training standards and supervise the local training of counterpart staff;

(e) be responsible to the Executing Agency for all material, equipment and transport, and the local disbursement of funds supplied to the Project through the Executing Agency, and/or administered by the Executing Agency on behalf of the Government;

(f) control the use of equipment and materials, supplies and other property belonging to the Special Fund and/or the Executing Agency, or contributed to the project by the Government; and

(g) co-ordinate as judgment indicates desirable, the efforts of project personnel with that of other agencies and projects whose activities have a bearing on this project.

3.16 The Government Agency responsible for Government participation in the project shall provide the necessary technical and administrative support to the project and ensure the cooperation of other agencies participating in the project.

/ The Government

3.17 The Government shall appoint a Project Co-manager, acceptable to the Executive Agency, who will be assigned full time to the project. He will co-operate closely with the Project Manager in the administration and execution of the project.

3.18 In the discharge of his duties, the Co-Manager, in consultation with the Project Manager, shall:

(a) be responsible for all phases of the Government's participation in the project, including ensuring that Government contributions are made as scheduled, and that buildings, equipment, materials and facilities listed as counterpart contributions in kind in the Plan of Operation are available as needed and in due time;

(b) submit for appointment by the Government the counterpart personnel, auxiliary staff and candidates for fellowships previously agreed with the Project Manager;

(c) be responsible for the administrative supervision of counterpart professional and auxiliary personnel assigned to the project;

(d) assist the Project Manager in co-ordinating project activities with the activities of other Governmental Agencies and projects concerned in fields of work related to the project.

3.19 The Government shall appoint an Administrative Officer, acceptable to the Executing Agency, who will work under the supervision of the Project Manager and in close co-operation with the Co-Manager. The Administrative Officer shall be responsible for servicing the project on administrative matters such as accounting, storekeeping, purchase of materials and supplies, maintenance of equipment, payrolls and servicing of the experts. He shall be responsible for the care of equipment and supplies and the supervision of

/administrative

administrative personnel. He shall also be responsible for the appropriate registration, licensing and insurance for the duration of the project of all motor vehicles supplied by the Executing Agency.

3.20 All material and equipment provided for in the Plan of Operation will be used exclusively for execution of the project.

3.21 All equipment and supplies which are purchased from Special Fund resources remain the property of the United Nations Special Fund in whose name it is held by the Executing Agency. This provision shall also apply to equipment, the title to which is temporarily transferred to the country to comply with the legislation of the country or for the convenience of project operations.

3.22 All equipment and supplies which are purchased from Special Fund resources shall be clearly marked with the insignia of the Special Fund and of the Executing Agency.

D. Sequence of Operations

3.23 The Executing Agency shall commence operation of the project upon receipt of written authorization to do so from the Managing Director of the United Nations Special Fund.

3.24 Upon receipt of this authorization, the Executing Agency shall undertake recruitment and, in consultation with the Government, appoint the Project Manager and the other international experts required for the project. The Executing Agency shall also make arrangements for the execution of the other activities on the project as provided in the Plan of Operation, including, where applicable, entering into negotiations for the selection of sub-contractors. Upon the arrival of the Project Manager at his duty station the Government will appoint a Project Co-Manager, acceptable to the Executing Agency.

/The Project

3.25 The Project Manager, together with the Project Co-Manager, and in consultation with the Government, shall prepare a general Plan of Work, the main aspects of which are listed in the Schedule of Operation (Appendix IV), for carrying out the project operations. This Plan of Work shall be submitted, within three months after the Project Manager's arrival, to the Executing Agency for approval. It shall include such items as an overall schedule for the operations, detailed lists of equipment, supplies and materials to be purchased, staffing plans, and arrangements for transport, and other services. Provisions shall be made in order to take account of suggestions of the respective experts when they arrive in the country.

3.26 The Project Manager, together with the Project Co-Manager, shall also prepare a Forward Plan of Work for the first 12 months of the project operations, outlining all details of the activities to be carried out during this period. Thereafter a Forward Plan of Work for each 12 month period during the term of the project shall be prepared and submitted for approval to the Executing Agency and shall serve as a control on the project activities during the period to which it applies.

3.27 Minor adjustments in the schedules for manning the project and provision of other facilities may be made when agreed upon by the Project Manager and the Project Co-Manager in consultation with the Government and approved by the Headquarters of the Executing Agency, if this is found to be in the best interests of the project.

3.28 The Government will assign to the project the counterpart personnel in accordance with the manning table of the Schedule of Operation, and deliver the physical facilities to be furnished by the Government as outlined in this Schedule.

/Orders

3.29 Orders for equipment and supplies, which the Government will provide as contribution in kind, shall be placed in due course to ensure availability of these items at the appropriate time.

3.30 During the first year of the project operations the following activities will be undertaken

a) Preliminary works such as land compensation and detailed survey (soils, water, agriculture) of the farm and demonstration areas.
b) Construction of access roads and farm buildings.
c) Preparation of plans for irrigation and drainage networks in the farm area and in a first zone of the pilot area.
d) Excavation of canals, construction of structures in the farm area and commencement of the operations in the first zone of the pilot area.
e) Establishment of the first season's experiments and demonstration on the performance of crops in the farm.

3.31 During the second year of the project:

a) Completion of constructions and buildings in the farm area.
b) Continuation and completion of irrigation and drainage networks in the first zone of the pilot area, commencement of work in the second zone.
c) Establishment of the experiments of the dry and rainy seasons and demonstration of diversification of crops.
d) Extension work with farmers in pilot area on irrigation and agricultural practices and farm management.
e) Marketing, credit, co-operative studies, and organization in pilot area.

/During

3.32 During the third year of the project:

a) Completion of irrigation and drainage networks in pilot areas.
b) Continuation of experiments of the dry and rainy seasons, and demonstration of the diversification and rotation of crops.
c) Extension work with farmers in pilot areas to be continued.
d) Continue marketing, credit, co-operative studies and organization in pilot areas.

3.33 During the fourth year of the project, analysis of the experiments carried out and the comparison of results obtained and preparation and completion of Final Reports are to be accomplished side by side with the activities on Marketing, Credit and Co-operatives, Farm Management and Extension.

The results of all experiments and demonstration at the end of each cropping season will be statistically analysed. These results and findings including relationships of experimental results obtained to soil type, irrigation techniques and soil management to emphasize the difference of yields between irrigated and non-irrigated crops would form part of the Final Report.

3.34 Training of counterpart personnel will be carried out through in-service training. During the less busy season of each year, however, lectures on subject matters appropriate to the work of the project will be arranged by the Project Manager and Co-Manager and facilities for these will be provided by the Government at the request of the Project Manager.

3.35 The execution of the project is expected to start about September 1965 and to be completed 4 years thereafter.

/As the project

3.36 As the project develops, the Project Manager and the international experts will delegate an increasing amount of their responsibilities to the Co-Manager and the respective counterpart staff so that, at the end of the period of Special Fund support, the national project personnel will be competent to ensure the efficient continuation, or follow-up, of project activities.

3.37 The Government undertaken to continue to provide lift irrigation for the Pilot Station and the demonstration area, if the diversion dam does not materialize before the termination of the project.

## IV. BUDGET

4.1 The estimated cost of the services and facilities to be provided for the project is detailed in the Plans of Expenditure appended to this Plan of Operation. Funds will be provided by the Special Fund and the Government as indicated below:

| | | | |
|---|---|---|---|
| (a) 1. | Allocation by the Special Fund (Appendix I) | | $ 542,900 |
| | Special Fund contribution | $ 496,300 | |
| | Government contribution toward local operating costs | $ 46,600 | |
| 2. | Counterpart contribution in kind by the Government (Appendix II) | | $ 500,000 |

## V. REPORTS

5.1 The Government and the Executing Agency shall exchange reports, the content and timing of which shall be agreed by correspondence.

5.2 The Government and the Executing Agency shall at the end of each calendar year submit to the Special Fund a joint certified inventory of project equipment purchased from the Special Fund allocation and for which title remains with the Special Fund.

5.3 As soon as possible following the conclusion of project operations and not later than 6 months from that date, the Executing Agency will submit a final comprehensive report on the project to the Managing Director for presentation to the Government.

## VI. REVISION

6.1 The project will be subject to periodic review by the Special Fund. Any substantial deviation from the Plan of Operation will require a careful evaluation of the problems encountered by the three parties to the project in order to determine the future course of action.

/VII. STEPS

## VII. STEPS TO BE TAKEN AT THE COMPLETION OF SPECIAL FUND ASSISTANCE TO THE PROJECT

7.1 At the successful conclusion of the project, the Government, the Executing Agency and the Special Fund will consult with a view to transferring the title to part or all of the equipment provided by the Special Fund, in whose name it has been held by the Executing Agency, to the Government or to an Agency nominated by the Government.

7.2 Within 3 months of receiving the final report, the Government shall submit to the Executing Agency and the Special Fund a report on the benefits derived from the project and the activities planned by the Government to implement the recommendations contained in the final report.

## VIII. SIGNATURE

8.1 Agreed, on behalf of the Parties, by the undersigned:

Date: 13 August 1965 — (Signed) Measketh Caimirane
For the Government of Cambodia

Date: 13 August 1965 — (Signed) Phouangkeoh Phanareth
For the Government of Laos

Date: 13 August 1965 — (Signed) Boonrod Binson
For the Government of Thailand

Date: 13 August 1965 — (Signed) Trinh-Ngoc-Sanh
For the Government of the Republic of Viet-Nam

Date: 13 August 1965 — (Signed) J.N. Corry
United Nations Special Fund

Date: 13 August 1965 — (Signed) A. de Vajda
Food and Agricultural Organization

Appendix I

Pilot Station for Irrigated Agriculture, Battambang, Cambodia

Plan of Expenditure

United Nations Special Fund Allocation

| 1. Experts | Total Man-months | Total Project Costs | Estimated Cash Disbursement $ 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|---|
| i) Agricultural Engineer (genie rural) and Project Manager | 48 | 95,600 | 8,000 | 21,300 | 23,700 | 22,200 | 20,400 |
| ii) Civil Engineer with experience in irrigation | 12 | 23,900 | 4,000 | 19,900 | - | - | - |
| iii) Survey Engineer | 9 | 17,900 | - | 17,900 | - | - | - |
| iv) Irrigation Agronomist | 36 | 71,700 | - | 23,200 | 21,300 | 27,200 | - |
| v) Tractor Instructor (Agricultural Machinery) | 6 | 11,900 | - | - | - | 11,900 | - |
| vi) Farm Management (with) experience in extension | 30 | 59,800 | - | - | 23,200 | 21,100 | 15,500 |
| vii) Marketing, Credit and Co-operatives | 12 | 23,900 | - | - | 8,000 | 15,900 | - |
| viii) Consultants (including water law) | 3 | 6,000 | - | - | 2,000 | 2,000 | 2,000 |
| | 156 | 310,700 | 12,000 | 82,300 | 78,200 | 100,300 | 37,900 |

Appendix I (Cont'd)

| 2. Equipment and Supplies | Total Project Costs | Estimated Cash Disbursements $ 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|
| Agricultural Machinery and Implements, such as Tractors, Sub-soilers, Ploughs, Harrows, Trailers | 30,000 | - | 25,000 | 5,000 | - | - |
| Construction equipment | 40,000 | 10,000 | 30,000 | - | - | - |
| Transport vehicles | 16,000 | 16,000 | - | - | - | - |
| Pump sets with pipes (3) | 25,000 | - | 10,000 | 15,000 | - | - |
| Tools for workshop | 7,000 | - | 17,000 | - | - | - |
| Gates, modules, etc. | 18,000 | - | 12,000 | 6,000 | | - |
| Agricultural supplies, seeds, etc. | 7,000 | - | 2,000 | 2,000 | 3,000 | - |
| Final Report | 10,000 | - | - | - | - | 10,000 |
| | 153,000 | 26,000 | 86,000 | 28,000 | 3,000 | 10,000 |

APPENDIX I (continued)

| | Total Project Costs | Estimated Cash Disbursements $ 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|
| 3. Miscellaneous | | | | | | |
| . Secretarial and clerical assistance | 7,000 | 1,000 | 1,500 | 1,500 | 2,000 | 1,000 |
| . Postage and cable charges | 6,000 | 1,000 | 1,200 | 1,200 | 1,200 | 1,400 |
| . Contingencies | 5,600 | 1,000 | 1,000 | 1,000 | 1,000 | 1,600 |
| | 18,600 | 3,000 | 3,700 | 3,700 | 4,200 | 4,000 |
| TOTAL GROSS PROJECT COSTS | 482,300 | 41,000 | 172,000 | 109,900 | 107,500 | 51,900 |
| 4. Executing Agency Overhead Costs | 60,600 | 5,100 | 15,100 | 15,100 | 15,100 | 10,200 |
| 5. Special Fund Direct Costs | - | - | - | - | - | - |
| SPECIAL FUND ALLOCATION | 542,900 | 46,100 | 187,100 | 125,000 | 122,600 | 62,100 |

Appendix II

Pilot Station for Irrigation Agriculture, Battambang - Cambodia

Plan of Expenditure

Government's Counterpart Contribution in Kind and Estimated Cost

(Government's financial year starts on ..... and ends on .....

| | Total Man-months | Total Project Cost Riels | Estimated Cash Disbursements in Riels 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|---|
| I. Personal Services | | | | | | | |
| (a) Professional Staff | | | | | | | |
| 1. Co-Manager (1) | 48 | 560,000 | 44,000 | 140,000 | 140,000 | 140,000 | 96,000 |
| 2. Assistant Agronomists (2) | 96 | 800,000 | 32,000 | 200,000 | 200,000 | 200,000 | 168,000 |
| 3. Foreman of works (1) | 48 | 440,000 | 32,000 | 110,000 | 110,000 | 110,000 | 78,000 |
| 4. Tech. Assistants (5) | 240 | 600,000 | 48,000 | 150,000 | 150,000 | 150,000 | 102,000 |
| | 432 | 2,400,000 | 156,000 | 600,000 | 600,000 | 600,000 | 444,000 |
| (b) Non-professional Staff | | | | | | | |
| 5. Administrative Officer (1) | 48 | 182,000 | 12,500 | 45,000 | 45,000 | 45,000 | 35,000 |
| 6. Typist-Secretary (1) | 48 | 99,600 | 8,600 | 25,000 | 25,000 | 25,000 | 16,000 |
| 7. Store Keeper (1) | 48 | 79,300 | 5,300 | 20,000 | 20,000 | 20,000 | 14,000 |
| 8. Tractors and truck drivers | 384 | 119,600 | 9,600 | 30,000 | 30,000 | 30,000 | 20,000 |
| 9. Mechanic (1) | 48 | 119,000 | 8,000 | 30,000 | 30,000 | 30,000 | 21,000 |
| | 576 | 600,000 | 44,000 | 150,000 | 150,000 | 150,000 | 106,000 |
| | | 3,000,000 | 200,000 | 750,000 | 750,000 | 750,000 | 550,000 |

Appendix II (Cont'd)

| | Total Project Cost Riels | Estimated Cash Disbursements in Riels 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|
| 2. Land and Buildings | | | | | | |
| Storage facilities | 500,000 | 500,000 | | | | |
| Land compensation, clearing, levelling, etc. for Pump Station and Irrigation Network | 4,000,000 | - | 3,000,000 | 1,000,000 | - | - |
| Drainage Network, Structures etc. | 2,000,000 | - | 1,000,000 | 1,000,000 | - | - |
| Experimental Farm, roads & school & residence, workshop, building, etc. | 2,000,000 | - | 1,000,000 | 1,000,000 | - | - |
| | 8,500,000 | 500,000 | 5,000,000 | 3,000,000 | - | - |
| 3. Equipment and Supplies | | | | | | |
| a) Fuel, oils, operational expenses | 1,340,000 | 180,000 | 300,000 | 300,000 | 280,000 | 280,000 |
| b) Locally available tools | 290,000 | 30,000 | 200,000 | 40,000 | 10,000 | 10,000 |
| c) Local transportation expenses | 770,000 | 40,000 | 500,000 | 150,000 | 40,000 | 40,000 |
| d) Supplies for extension | 890,000 | 0,000 | 500,000 | 240,000 | 50,000 | 50,000 |
| e) Seeds & fertilizers | 640,000 | 0,000 | 200,000 | 200,000 | 100,000 | 100,000 |
| f) Equipment & supplies | 570,000 | 0,000 | 300,000 | 70,000 | 20,000 | 20,000 |
| Total | 4,500,000 | 000 | 2,000,000 | 1,000,000 | 500,000 | 500,000 |

APPENDIX II (cont'd)

| | Total Project Costs Riels | Estimated Cash Disbursements in Riels 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|
| 4. Miscellaneous | | | | | | |
| Office equipment, furniture, stationery and other supplies, communication services and service contingencies | 1,500,000 | 100,000 | 400,000 | 400,000 | 400,000 | 200,000 |
| | 1,500,000 | 100,000 | 400,000 | 400,000 | 400,000 | 200,000 |
| TOTAL COUNTERPART CONTRIBUTION IN KIND | 17,500,000 | 1,300,000 | 8,150,000 | 5,150,000 | 1,650,000 | 1,250,000 |
| TOTAL COUNTERPART CONTRIBUTICE IN KIND EXPRESSED IN US DOLLAR EQUIVALENT | 500,000 | 37,143 | 232,857 | 147,143 | 47,143 | 35,714 |

# APPENDIX III

## Pilot Station for Irrigated Agriculture, Battambang, Cambodia

## Total Government Contribution

| | Total US$ | Equivalent in US$ | | | | |
|---|---|---|---|---|---|---|
| | | 1965 | 1966 | 1967 | 1968 | 1969 |
| Counterpart contribution in Kind 1) | 500,000 | 37,143 | 232,857 | 147,143 | 47,143 | 35,714 |
| Contribution towards local operating costs 2) | 46,600 | 14,200 | - | 11,700 | 15,000 | 5,700 |
| TOTAL GOVERMENT CONTRIBUTION | 546,600 | 51,343 | 232,857 | 158,843 | 62,143 | 41,414 |

1) These amounts have been calculated at the prevailing United Nations operating rate of exchange of US$ 1.00 – 35 Riels.

2) These amounts are payable in local currency at the United Nations operating rate of exchange (which is based on the most favourable legal rate of exchange available to the Special Fund) which at present time is US$ 1.00 – 35 Riels.

# APPENDIX IV

## Pilot Station for Irrigated Agriculture, Battambang, Cambodia

## Schedule of Operations

### MANNING TABLE FOR PROFESSIONAL STAFF AND TIMING OF FELLOWSHIPS

| | Months of Service | 1965 | 1966 | 1967 | 1968 | 1969 |
|---|---|---|---|---|---|---|
| a) Internationally Recruited Experts | | | | | | |
| Agricultural Engineer and Project Manager | 48 | 4 | 12 | 12 | 12 | 8 |
| Civil (Construction) and Irrigation Engineer | 12 | 2 | 10 | - | - | - |
| Survey Engineer | 9 | - | 9 | - | - | - |
| Irrigation Agronomist | 36 | - | 12 | 12 | 12 | - |
| Tractor Instructor (Agricultural Machinery) | 6 | - | - | - | 6 | - |
| Farm Management with experience in Extension | 30 | - | - | 12 | 12 | 6 |
| Marketing, Credit and Co-operatives | 12 | - | - | 4 | 8 | - |
| Consultants (including water law) | 3 | - | - | 1 | 1 | 1 |
| b) Counterpart Staff | | | | | | |
| Co-Manager | 48 | 4 | 12 | 12 | 12 | 8 |
| Assistant Agronomists (2) | 96 | 8 | 24 | 24 | 24 | 16 |
| Foreman of works (1) | 48 | 4 | 12 | 12 | 12 | 8 |
| Technical Assistants (5) | 240 | 20 | 60 | 60 | 60 | 40 |

### OTHER FACILITIES

a) Buildings and Construction

To be supplied by the Government:

| | |
|---|---|
| Experimental farm land, office buildings | September 1965 |
| Roads, drainage | March 1966 |
| Pumping station and irrigation network | June/September 1966 |

APPENDIX IV (cont'd)

II OTHER FACILITIES (cont'd)

b) Equipment and Supplies

1) To be supplied by the Special Fund:

| | |
|---|---|
| Agricultural machinery, etc. | January 1966/67 |
| Construction equipment | December 1965/66 |
| Transport | December 1965 |
| Pumps, etc. | March 1966/67 |
| Workshop tools | March 1966 |
| Gates, pipes, stool, cement | March 1966/67 |

11) To be supplied by the Government:

| | |
|---|---|
| Fuels, oils, machinery repair costs | continuous |
| Transport | September 1965 |
| Miscellaneous supplies | continuous |
| Office equipment and furniture | December 1965 |

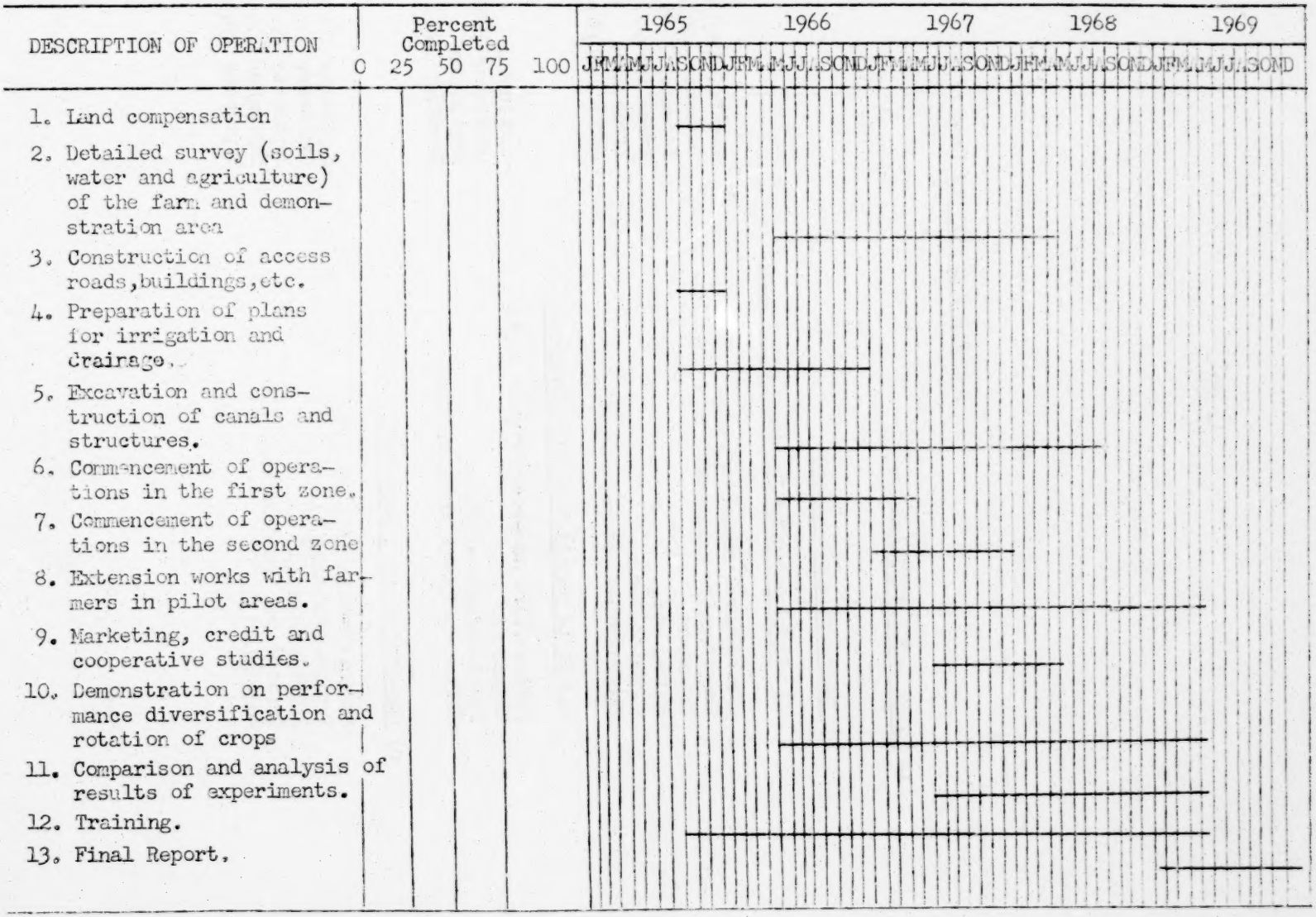
c) Non-professional Personnel

| | |
|---|---|
| Administrative Officer (1) | September 1965 |
| Typist-Secretary (1) | September 1965 |
| Store keeper (1) | September 1965 |
| Tractor and Truck drivers (6) | September 1965 |
| Mechanic (1) | September 1965 |

UNITED NATIONS SPECIAL FUND PROJECT IN CAMBODIA
PILOT STATION FOR IRRIGATED AGRICULTURE, BATTAMBANG

III WORK PROGRAMME

APPENDIX IV (cont'd)


DESCRIPTION OF OPERATION
Percent Completed
0 25 50 75 100
1965
1966
1967
1968
1969
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1. Land compensation
2. Detailed survey (soils, water and agriculture) of the farm and demonstration area
3. Construction of access roads, buildings, etc.
4. Preparation of plans for irrigation and drainage.
5. Excavation and construction of canals and structures.
6. Commencement of operations in the first zone.
7. Commencement of operations in the second zone
8. Extension works with farmers in pilot areas.
9. Marketing, credit and cooperative studies.
10. Demonstration on performance diversification and rotation of crops
11. Comparison and analysis of results of experiments.
12. Training.
13. Final Report.